Obituary Notices

Sir Thomas Callender

SIR THOMAS OCTAVIUS CALLENDER, who died at his home at Bidborough Court, Kent, on December 2, at the age of eighty-two years, spent a long and very busy life in promoting the electrical industry. He was the eldest son of the late W. O. Callender of Bournemouth and was born in Glasgow in April 1855. He was educated at Greenock, in London and later at Boulogne-sur-Mer. The outbreak of the Franco-Prussian War made it necessary for him to leave France, and later he entered his father's office in London, devoting himself to the asphalt, paving and bitumen refining business of which W. O. Callender was founder. Having acquired an interest in part of the Trinidad Lake, W. O. Callender and two of his sons founded the business of Callender and Sons, in 1877, for the supply of Trinidad bitumen. Large quantities of bitumen were refined and used for road-making and building purposes, but it was felt that further developments were possible, and its uses for electrical work were constantly considered.

When Callenders started carrying out complete contracts for both the making and laying of underground mains, their practical knowledge of road-making proved of great value. In the early days, the only output for insulated wires was in connexion with the electric telegraph. When Edison and Swan brought into practical use the electric glow-lamp, it became clear that some materials, such as Callenders were making, could be usefully employed for the heavy mains which would evidently be required. Bitumen in its natural state was useless, as it is easily affected by heat and consequently unstable. After many experiments, it was discovered that a combination of certain palm oil residues with bitumen produced a material that could be vulcanized and so could be employed as a covering for both heavy electric cables and light electric telegraph wires. For this experimental work, Letters Patent (No. 4409) were granted to Mr. W. O. Callender in October 1881. Mr. Tom Callender was elected manager of Callender's Bitumen Telegraph and Waterproof Company formed to develop this discovery. Sir Samuel Canning (who with Lord Kelvin was famous for his Atlantic cable experience) was appointed consulting engineer to the company.

In 1894 the directors were able to report that out of eighty-two electric light stations then in existence or under construction in Great Britain, their Company had supplied mains to thirty-eight. In July 1896, Callender's Cable and Construction Co. was formed and took over the entire interests and contracts of the old company: Mr. Tom Callender was appointed managing director and controlled the business with conspicuous success almost up to the day of his death.

Tom Callender was a great traveller. Shortly after he joined his father's paving and bitumen business, he spent nearly a year in Rumania repaving the

entire city of Jassy. His journey to St. Petersburg in 1880 concentrated his interest in electrical work. The illumination produced by an immense number of Jablochhoff candles at the Opera House astounded him. Three years later Callenders installed the necessary underground mains when Covent Garden Opera House, London, was electrically illuminated. On a later occasion he went to the United States by the Cunard S.S. *Scythia*, which was lighted by paraffin lamps, and returned by the Cunard S.S. *Servia*, the first large liner to be equipped with an effective electrical installation. He was so impressed that on his return he urged his company to devote all possible attention to electrical development. In 1930, Callenders acquired a new research laboratory in which is installed the most modern electro-technical apparatus. It is mainly employed in performing experiments with the object of elucidating the trend of future evolution in the cable industry. In opening it, Lord Rutherford made a very appreciative speech on the work it was doing under the superintendence of Mr. P. V. Hunter.

Tom Callender married in 1885 Bessie, the eldest daughter of Mr. William Pinnock, of Belvedere, Kent, and had one son, Mr. T. O. Callender, who has been a director of the present company since 1932. The controlling genius of the extensive Callender interests was honoured by knighthood in June 1918. This well-deserved recognition gave the greatest pleasure both to the numerous friends of Sir Thomas and Lady Callender and also to the company's large staff in all parts of the world. The company published a memorial volume "The Story of Callender's, 1882-1932" to celebrate its fiftieth anniversary. It gives biographical sketches of all the distinguished members of the staff and also an account, with photographs, of the works the company has done and is doing in almost every part of the world. Among them are Windsor Castle (1907), Keble College, Oxford (1909), Birmingham (1890), Bombay (1908), Agra (1924), Hong Kong (1904), the City and South London Railway (1889) and Banhida, Hungary (1928).

A. R.

Prof. J. W. Bews

J. W. BEWS was born at Kirkwall, in the Orkney Islands, in 1884, being the younger son of the late James Bews, of Berry Hill, Scapa, Orkney. From the Kirkwall Burgh School he entered the University of Edinburgh as Earl of Zetland bursar in 1902. After graduating, he was appointed lecturer in economic botany in the University of Manchester, but returned to Edinburgh in 1908 as lecturer in plant physiology and assistant professor of botany.

In 1910, Bews was appointed professor of botany in the Natal University College, with which he has since been associated except for the period 1925-27, when he occupied the chair of botany at Armstrong College, University of Durham.

As soon as Prof. Bews arrived in Natal he began his investigations of the vegetation, and within a short period had published a number of important papers on the plant ecology of Natal and of South Africa. He was a pioneer of plant ecology in South Africa, and in addition to making many important contributions to the science of ecology, his work has had an important bearing on many economic questions, such as soil erosion, veld burning, over-grazing, afforestation and weed control. In particular, his work on the grasses and grasslands of South Africa has stimulated much research which is now being carried out in various parts of the country, and is producing many important changes in some aspects of agricultural practice.

In 1921, Bews completed a "Flora of Natal and Zululand", and later investigated the origin, evolution and migrations of the South African flora. After publishing several papers on this subject he issued his conclusions in a more extended form in a book on "Plant Forms" in 1925. This led naturally to a wider study of the classification and evolution of plant growth forms, and the results were summarized in another book on "The Ecological Evolution of Angiosperms".

During his short, but successful, stay at Armstrong College, Newcastle-upon-Tyne, Prof. Bews worked assiduously at the grasses, with the result that in 1929 his "World's Grasses" was published. This important work is accepted as standard throughout the British Empire and the United States.

In 1930, Prof. Bews was appointed first principal of the Natal University College, and has been responsible for organizing and guiding the recent rapid developments which university work in Natal has undergone, and for laying the foundations of the future University of Natal. During this period, in spite of heavy administrative responsibilities, he found time to apply himself to a study of man and some of the problems confronting mankind. He approached these also from the ecological point of view, and wrote two books on the subject—"Human Ecology", published in 1935, and "Life as a Whole" in 1937. His synthetic approach to these problems was along new lines, and he considered these books merely as a preliminary survey of the field. In addition to his scientific research work, which is contained in numerous published papers, as well as in his books, Prof. Bews built up a strong department of botany at the Natal University College, and achieved much success both as a teacher and as a director of student research.

Prof. Bews occupied an important and prominent place in the administration of university and scientific affairs in South Africa. He was a member of the Council of the University of the Cape of Good Hope, and of the University of South Africa, several times chairman of Senate of the University of South Africa, and a fellow of the Royal Society of South Africa. In 1931, he was president of the South African Association for the Advancement of Science, and in 1932 was the recipient of the South African Medal, which is the Association's premier award. In 1932 he was also one of a small deputation of eminent men of science chosen to represent South Africa

at the centenary meeting of the British Association.

Great as Prof. Bews was as a scientist and administrator, he was equally successful in attracting a circle of appreciative friends both in South Africa and at home. He was only two years with us in Newcastle, yet those of us who were fortunate enough to gain his friendship will never forget it or the genial placidity with which he confidently faced all difficulties.

We all feel the better for having enjoyed the privilege of knowing him.

J. W. HESLOP HARRISON.

Mr. J. J. Kneen

WE regret to record the death of Mr. J. J. Kneen, distinguished as an authority on the antiquities and language of the Isle of Man, which took place on November 21, at the age of sixty-six years.

John Joseph Kneen was born on September 12, 1872, and educated at St. George's School, Douglas, Isle of Man. His lifelong devotion to Manx studies received recognition not only within the island, but also from outside. He was past-president and secretary of the Manx Society, which exists for the preservation of the language, literature and music of the Isle of Man, and a member of the executive of the World Manx Association for the federation of Manx people throughout the world, as well as of the Manx National Assembly. In 1930-31 he was president of the Manx Natural History and Antiquarian Society. The University of Liverpool conferred upon him the honorary degree of M.A. in 1929; and four years later he was made 'Ridder' of the First Class of the Order of St. Olaf of Norway. His most signal distinction, however, was a grant of £200 from the trustees of the Fridtjof Nansen Fund to the trustees of the Manx Museum and Ancient Monuments for the purpose of enabling him to continue his researches on Manx place-names, and more especially of recording the true local pronunciation of these names before precise knowledge of the Manx tongue had died away.

WE regret to announce the following deaths:

Andre Blondel, since 1913 a free member of the Paris Academy of Sciences and a distinguished electrical engineer, known for his work on alternating current theory and for the development of the oscillograph and of the radio beacon, on November 15, aged seventy-five years.

The Right Hon. Lord Chalmers, Governor of Ceylon from 1913 until 1916, a trustee of the British Museum during 1924-31, and president of the Asiatic Society during 1922-25, on November 18, aged eighty years.

Dr. F. W. Goodbody, lecturer in medical chemistry in University College, London, on November 30, aged sixty-eight years.

Sir Brajendranath Seal, formerly vice-chancellor of the University of Mysore, known for his work in education and Bengali philosophy, on December 3, aged seventy-four years.